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7590
Morgan & Finnegan
345 Park Avenue
New York, NY 10154

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EXAMINER

DRODGE, JOSEPH W

ART UNIT	PAPER NUMBER
1723	

1723


DATE MAILED: 05/29/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No. 10/019,967	Applicant(s) NYMAN ET AL	
Examiner JOSEPH DRODGE	Art Unit 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
 - 4a) Of the above, claim(s) 1-18 is/are withdrawn from consideration.
- 5) Claim(s) 17 and 18 is/are allowed.
- 6) Claim(s) 1-16 is/are rejected.
- 7) Claim(s) ~~1-18~~ 17 and 18 is/are objected to.
- 8) Claims ~~17 and 18~~ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some* c) None of:
 - 1. Certified copies of the priority documents have been received.
 - 2. Certified copies of the priority documents have been received in Application No. _____.
 - 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s). 7
- 4) Interview Summary (PTO-413) Paper No(s). _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other:

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claims 16 and 17 are objected to under 37 CFR 1.75© as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 U.S.C. § 112

3. Claims 16 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Within claim 1, it is unclear whether the making of a volumetric ratio of extraction solution to aqueous solution is a positively recited method step or a pre-existing condition.

In claim 5, line 2 "solutions" should be "solution" to be consistent.

In claim 6, the recited pumping ratio of "0.08 to 0.02" should apparently be "0.08 to "0.2" to be consistent with claims 8, 10 and 12.

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The terminology "the external pumping ratio" in claims 6, 8, 10 and 12 not only lacks proper antecedent basis; it lacks nexus and defined scope, particularly since it is unclear what constitutes "external".

In claims 13-15 "alifatic (aromatic) hydrocarbons, kerosene" is indefinite, it is unclear whether kerosene is listed as an alternative or the claims are reciting a combination of kerosene with other substances.

Claim Rejections - 35 U.S.C. § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koenders et al patent 4,173,616 in view of Cook et al patent 3,666,446 and Vorlop et al patent 5,015,448.

Koenders et al disclose extraction of copper and other metal ores from acidic and other aqueous solutions within leaching operations utilizing a combination of organic solvents, diluents and oxime extractants (column 1, lines 14-28; column 6, lines 19-38 and column 7, lines 8-40). The aqueous solutions may contain large amounts of sulfates (Examples 6-17/column 10, lines 34-38). The ratio of extraction solution to aqueous solution encompasses the claimed ratio (column 7, lines 19-22).

The claims differ in requiring that viscosity be adjusted or increased to a cP of 3-11. However, Vorlop et al teach such viscosity adjustment by use of various additives and diluents to a copper extracting solution (column 1, lines 35-57; column 10, lines 25-39; column 16, lines 37-51 and column 28, lines 6-32). At the time the present invention was made, it would have been obvious to one of ordinary skill in this art to have augmented the Koenders et al method by

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so adjusting or increasing the viscosity, as taught by Vorlops et al, so as to increase the extraction efficiency and phase separation of the extraction as well as imparting an increased degree of extraction selectivity. As to particular "cP" values, although the references are silent as to such parameter, increasing of cP values are inherent in Vorlops et al which teach liberal, unlimited degree of viscosity increasing.

The claims also differ in the explicit recitation of the aqueous solution being dispersed in droplets in the extraction solution. However, Cook et al teach a similar extraction solution to Koenders et al used in similar copper extraction processes, in which enhancement of formation of dispersions is suggested (column 5, lines 45-49). At the time the present invention was made, it would have been obvious to one of ordinary skill in this art to have modified the method of Koenders et al, by adding amounts of solution ingredients so as to disperse the aqueous solution, as suggested by Cook et al, so as to inhibit the formation of emulsions which would decrease formation of distinct extraction phases.

Regarding claims 2-12, the proportional raising of the content of extractant as well as relative ratio of extraction solution to aqueous solution is disclosed as being proportional to copper value content and factors such as temperatures in Koenders et al column 7, lines 20-29 and column 11, lines 16-33.

Regarding claims 6, 8, 10 and 12, mixing of stripping solutions with the aqueous or extraction solution is taught in Cook et al column 9, lines 53-76 and also suggested in the discussions of leaching in Koenders et al column 1, line 17 and Vorlop et al column 28, line 31.

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Regarding claims 13-15, use of combinations of aliphatic and/or aromatic solvents and kerosene is disclosed in Koenders et al column 6, lines 30-35 and also in Cook et al column 5, lines 27-38 and column 11, lines 43-64.

Regarding claim 16, see Cook et al in column 2, lines 50-70 and column 3, lines 22-30 suggesting high amounts of sulfates.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kordosky et al is also of interest with respect to combinations of extraction and stripping stages in recovery of copper from aqueous solutions.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph W. Drodge whose telephone number is (703) 308-0403. The examiner can normally be reached on Monday-Friday from approximately 8:30 AM - 4:45 PM.


The fax phone number for this Group is (703) 872-9310 or (703) 872-9311 for after final submissions. When filing a FAX in Tech Center 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communication with the PTO that are not for entry into the file of the application. This will expedite processing of your papers.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

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Joseph W. Drodge
Primary Examiner
Art Unit 1723

JWD
May 28, 2003